What is claimed is:

1. A method of controlling a plurality of processing elements, comprising:

at least certain of said processing elements maintaining a count, each count being responsive to a processing element's location; and for each processing element maintaining a count;

storing data in response to its count.

2. The method of claim 1 wherein said maintaining a count includes setting a counter to a first known value and altering the count at programmable intervals by a programmable amount, said storing occurring when a current count equals a target value.

3. The method of claim 1 wherein said maintaining a count includes setting a counter to an initial value, and counting down from said initial value, said storing occurring when a current count is non-positive.

4. The method of claim 1 wherein said maintaining a count includes setting a counter to a first known value, and counting up from said first known value, said storing occurring when a current count equals a target count.

5. A method of controlling the data selected as output data by a plurality of processing elements, comprising:

issuing an instruction set to said plurality of processing elements, said instruction set being performed through a series of data shifts;

maintaining a count responsive to said data shifts within at least certain of said processing elements; and

selecting data based on said counts.

6. The method of claim 5 wherein said instruction set includes one of an edge shift, planer shift, wrap shift and vector shift or a combination thereof.

7. The method of claim 5 wherein said data shifts include shifting data in one of a north, south, east and west, plus z and minus z directions.

8. A method of controlling the position of data in a plurality of processing elements, comprising:

shifting data within the plurality of processing elements along one of a row, column or diagonal; and

each active processing element selecting data as a final output in response to that processing element's location within the plurality of processing elements.

9. The method of claim 8 additionally comprising loading an initial count into at least certain of said plurality of processing elements and calculating an initial count locally based on the processing element's location in the plurality and the function being performed on the data.

10. The method of claim 9 additionally comprising maintaining a current count in at least certain of said plurality of processing elements, said current count being responsive to said initial count and the number of data shifts performed, said selecting being responsive to said current count.

11. The method of claim 10 wherein said initial count is modified by a programmable amount at programmable intervals to produce said current count.

12. The method of claim 11 wherein said modification includes one of incrementing and decrementing said initial count.

13. The method of claim 12 wherein said selecting occurs when said current count is non-positive.

14. The method of claim 12 wherein said selecting occurs when said current count equals a target value.

15. The method of claim 8 wherein said shifting includes shifting data north to south, south to north, east to west, west to east, northeast to southwest, southwest to northeast, northwest to southeast and southeast to northwest.

16. A method for controlling the position of data in a matrix of processing elements, comprising:

shifting data within the matrix of processing elements;

maintaining a current count in each active processing element responsive to the number of data shifts; and

selecting output data as a function of said current count.

17. The method of claim 16 wherein said current count is incremented in response to said data shifts and said selecting occurs when a target value is reached.

18. The method of claim 16 wherein said current count is decremented from an initial count and said selecting occurs when said current count reaches a non-positive value.

19. The method of claim 16 wherein said shifting includes the north to south and south to north shifting of columns, the east to west and west to east shifting of rows, and the northeast to southwest, southwest to northeast, northwest to southeast and southeast to northwest shifting of diagonals.

20. A method, comprising:

shifting data within a plurality of processing elements; and

each active processing element selecting data as a final output in accordance with the formula f(x_Index, y_ Index, z_Index) where f is dependent upon the desired output.

21. The method of claim 20 additionally comprising one of loading an initial count into each processing element and calculating an initial count locally based on the processing element's location and the function f.

22. The method of claim 21 additionally comprising maintaining a current count in each processing element, said current count being responsive to said initial count and the number of data shifts performed, said selecting being responsive to said current count.

23. A method, comprising:

shifting data within a plurality of processing elements; and

each active processing element selecting data as a final output in accordance with the formula f (d(0), d(1), d(2) .... d(n-1)) where f is dependent upon the desired output.

24. The method of claim 23 additionally comprising one of loading an initial count into each processing element and calculating an initial count locally based on the processing element's location and the function f.

25. The method of claim 24 additionally comprising maintaining a current count in each processing element, said current count being responsive to said initial count and the number of data shifts performed, said selecting being responsive to said current count.

26. A memory device carrying a set of instructions which, when executed, perform a method comprising:

maintaining a count in at least certain of said processing elements, each count being responsive to a processing element's location; and for each processing element maintaining a count;

storing data in response to its count.